

Listing of Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-38. (canceled)

Claim 39. (previously presented) A chimeric gene capable of causing an increased level of lysine in seeds obtained from a transformed plant, the chimeric gene comprising:

a) an isolated nucleic acid fragment comprising a nucleic acid sequence which is useful in antisense inhibition or sense suppression of endogenous lysine ketoglutarate reductase/saccharopine dehydrogenase activity in a plant or plant cell wherein said isolated nucleic acid fragment comprises all or a part of the nucleic acid sequence encoding a plant lysine ketoglutarate reductase/saccharopine dehydrogenase, said part being sufficient in length for use in antisense inhibition or sense suppression; and

b) at least one regulatory sequence operably linked to said fragment.

Claim 40. (previously presented) A plant comprising the chimeric gene of claim 39 in its genome.

Claim 41. (previously presented) Seed obtained from the plant of claim 40.

Claim 42. (previously presented) A method for increasing lysine content in a plant seed which comprises:

- (a) transforming plant cells with the chimeric gene of claim 39;
- (b) regenerating fertile mature plants from the transformed plant cells obtained from step (a) under conditions suitable to obtain seeds;
- (c) screening progeny seed of step (b) for increased lysine content; and
- (d) selecting those lines whose seeds have increased lysine content.

Claim 43. (previously presented) Seed obtained by the method of claim 42.

Claim 44. (currently amended) A chimeric gene capable of causing an increased level of lysine in seeds obtained from a transformed corn plant, the chimeric gene comprising:

a) an isolated nucleic acid fragment comprising a nucleic acid sequence which is useful in antisense inhibition or sense suppression of endogenous lysine ketoglutarate reductase/saccharopine dehydrogenase activity in a corn plant or corn plant cell wherein said isolated nucleic acid fragment comprises all or a part of the

nucleic acid sequence encoding a corn plant lysine ketoglutarate reductase/saccharopine dehydrogenase, said part being sufficient in length for use in antisense inhibition or sense suppression; and

b) at least one regulatory sequence operably linked to said fragment.

Claim 45. (previously presented) A corn plant comprising the chimeric gene of claim 44 in its genome.

Claim 46. (previously presented) Seed obtained from the corn plant of claim 45.

Claim 47. (previously presented) A method for increasing lysine content in a corn plant seed which comprises:

- (a) transforming corn plant cells with the chimeric gene of claim 44;
- (b) regenerating fertile mature plants from the transformed corn plant cells obtained from step (a) under conditions suitable to obtain seeds;
- (c) screening progeny seed of step (b) for increased lysine content; and
- (d) selecting those lines whose seeds have increased lysine content.

Claim 48. (previously presented) Seed obtained by the method of claim 47.

Claim 49. (previously presented) A chimeric gene capable of causing an increased level of lysine in seeds obtained from a transformed corn plant, the chimeric gene comprising:

a) an isolated nucleic acid fragment comprising a nucleic acid sequence which is useful in antisense inhibition or sense suppression of endogenous lysine ketoglutarate reductase/saccharopine dehydrogenase activity in a corn plant or plant cell wherein said isolated nucleic acid fragment comprises all or a part of the nucleic acid sequence of SEQ ID NO:120, said part being sufficient in length for use in antisense inhibition or sense suppression; and

b) at least one regulatory sequence operably linked to said fragment.

Claim 50. (previously presented) A plant comprising the chimeric gene of claim 49 in its genome.

Claim 51. (previously presented) Seed obtained from the plant of claim 50.

Claim 52. (previously presented) A method for increasing lysine content in a plant seed which comprises:

(a) transforming plant cells with the chimeric gene of claim 49;
(b) regenerating fertile mature plants from the transformed corn plant cells obtained from step (a) under conditions suitable to obtain seeds;

(c) screening progeny seed of step (b) for increased lysine content; and
(d) selecting those lines whose seeds have increased lysine content.

Claim 53. (previously presented) Seed obtained by the method of claim 52.